

Figure 1

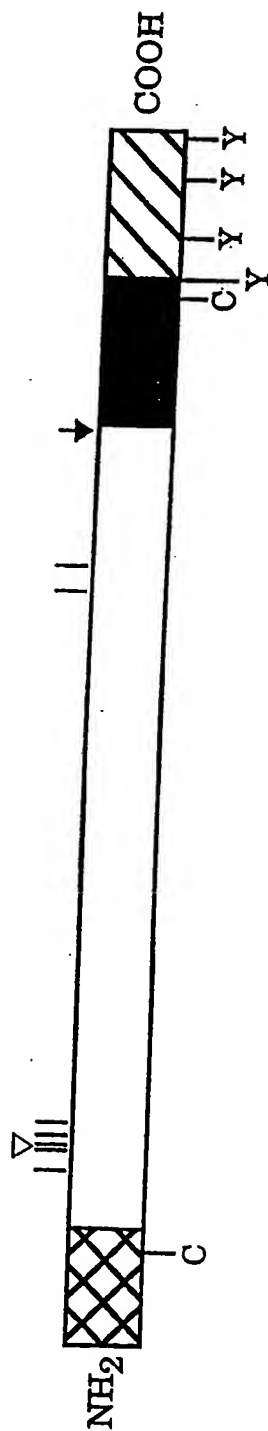


Figure 2

{Hu-Syndecan-1}	1pqivatnlppEDqdGsgDDsDnFsgsGaLqdittlsqqtPstwk	50
{Rt-Syndecan-1}	pqivtanvppEDqdGsgDDsDnFsgsgtGalpdmtilsrqtPstwk	
{Mu-Syndecan-1}	pqivavnvppEDqdGsgDDsDnFsgsgtGalpdmtilsrqtPstwk	
{Ch-Syndecan-1}	pqivtnvppEDqdGsgDDsDnFsgsgtGalpdmtilsrqtPstwk	
{Hu-Syndecan-4}	yfsгалpDdEDvvGpgqESDdFelsGsgdLddledsmigpevvh	
{RT-Syndecan-4}	YfsгалpDdEDaggleqDSD.FelsGsgdLddteeptrtfpevisp	
{CH-Syndecan-3}	rpvdlegsgDDDPfGddElDdlySsgsgyFegesgletavsltt	
{HU-Syndecan-2}		...dmyldnssieEasgvypiddDbyaSaSGG...adedvesPelttt	
{RT-Syndecan-2}		...dmyldsssieEasglypidDdDySSaSGG...ayedkgsPdlttts	
{MU-Syndecan-2}		...dmyldnssieEasgvypiddDdDySSaSGG...adediesPvltts	
{Fr-Syndecan-2}	yidst...EssgnypvDDdDySSgsgGipargddedenvvlttv	

	1		40
Murine Syndecan-1	MRRAALWLWL CALALRLQPA LPQIVaVNVP PEDQDGSgDD		
Rat Syndecan-1	MRRAALWLWL CALALRLQPA LPQIVtaNVP PEDQDGSgDD		
Hamster Syndecan-1	MRRAALWLWL CALALRLPQv LPQIVtVNVP PEDQDGSgDD		
Human Syndecan-1	MRRAALWLWL CALALsLQIA LPQIVatNIP PEDQDGSgDD		
	41		80
Murine Syndecan-1	SDNFSGSGTG ALPD.TLSRQ TPSTWKDVWL LTATPTAPEP		
Rat Syndecan-1	SDNFSGSGTG ALPDmTLSRQ TPSTWKDVWL LTATPTAPEP		
Hamster Syndecan-1	SDNFSGSGTG ALPDITLSRQ aspTlKDVWL LTATPTAPEP		
Human Syndecan-1	SDNFSGSGaG ALqDITLSqQ TPSTWKDtql LTAiPTsPEP		
	81		120
Murine Syndecan-1	TSsntEtaFT SVLPAGEKPE EGEpVLHVEa EPGFTARDKE		
Rat Syndecan-1	TSRDtEAtLT SILPAGEKPE EGEpVaHVEa EPdFTARDKE		
Hamster Syndecan-1	TSRDaqAttT SILPAaEKPG EGEpVLtaEv EPGFTARDKE		
Human Syndecan-1	TglEatAasT StLPAGEgPk EGEaVvlpEv EPGLTAR..E		
	121		160
Murine Syndecan-1	KEvTTRPRET vQLPITqrAS T.vRVTTAQA aVTSHPHggm		
Rat Syndecan-1	KEaTTRPRET TQLPVTqqAS TaARATTAQA sVTSHPHgDv		
Hamster Syndecan-1	sEvTTRPRET TQLlITHwvS T.ARATTAQA PVTSHPHrDv		
Human Syndecan-1	qEatpRPRET TQLPtThqAS Ttt.ATTAQe PaTSHPHrDm		
	161		200
Murine Syndecan-1	QPGLHETSAP TAPGQPDHQP PrVEgGGTSV IKEVvEDGta		
Rat Syndecan-1	QPGLHETlAP TAPGQPDHQP PSVEDGGTSV IDEVvEDetT		
Hamster Syndecan-1	QPGLHETSAP TAPGQPDqQp PS...GGTSV IKEVaEDGaT		
Human Syndecan-1	QPghHETStP agPsQadlht PhtEDGGpSa teraaEDGas		
	201		240
Murine Syndecan-1	NQLPAGEGSG EQDFTFETSG ENTAVAAVEP gLRNqPvDE		
Rat Syndecan-1	NQLPAGEGSG EQDFTFETSG ENTAVAgVEP DLRNqSPVDE		
Hamster Syndecan-1	NQLPtGEGSG EQDFTFETSG ENTAVAAVEP DqRNQSPVDE		
Human Syndecan-1	sQLPAaEGSG EQDFTFETSG ENTAVvAVEP DrRNQSPVDq		
	241		280
Murine Syndecan-1	GATGASQsLL DRKEVLGGVI AGGLVGLIFA VCLVaFmLYR		
Rat Syndecan-1	GATGASQGLL DRKEVLGGVI AGGLVGLIFA VCLVaFmLYR		
Hamster Syndecan-1	GATGASQGLL DRKEVLGGVI AGGLVGLIFA VCLVgFmLYR		
Human Syndecan-1	GATGASQGLL DRKEVLGGVI AGGLVGLIFA VCLVgFmLYR		
	281		313
Murine Syndecan-1	MKKKDEGSYS LEEPQANGG AYQKPTKQEE FYA		
Rat Syndecan-1	MKKKDEGSYS LEEPQANGG AYQKPTKQEE FYA		
Hamster Syndecan-1	MKKKDEGSYS LEEPQANGG AYQKPTKQEE FYA		
Human Syndecan-1	MKKKDEGSYS LEEPQANGG AYQKPTKQEE FYA		

FIGURE 3

Examples of extracellular matrix molecules that bind to heparin/heparan sulfate and interact with cells via specific surface receptors

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|--------------------------------|------------------|----------------------|---------|
| ● Collagen types I, II, III, V | ● Tenascin | ● Fibronectin | ● SPARC |
| ● Laminin | ● Thrombospondin | ● Entactin (nidogen) | ● Wnt-1 |
| ● Vitronectin | ● Pleiotropin | | |
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Examples of growth factors that bind to heparin/heparan sulfate and that interact with cells via specific surface receptors

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|---|--|
| ● Basic fibroblast growth factor (bFGF) | ● Platelet derived growth factor isoforms (PDGF) |
| ● Acidic fibroblast growth factor (aFGF) | ● Heparin-binding EGF-like growth factor (HB-EGF) |
| ● Keratinocyte growth factor (KGF) | ● Vascular endothelial growth factor isoforms (VEGF) (Vascular permeability factor, VPF) |
| ● hst/K-fgf | ● Transforming growth factor β isoforms (TGF- β) |
| ● Int-2 | ● Schwannoma-derived growth factor (amphiregulin) |
| ● FGF-5 | ● Interferon gamma |
| ● FGF-6 | ● Interleukin-3 |
| ● Hepatocyte growth factor (scatter factor) | ● Granulocyte-macrophage colony stimulating factor (GM-CSF) |
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Examples of cell adhesion molecules that bind to heparin/heparan sulfate and that interact with cells via specific surface receptors

- Neural cell adhesion molecule (N-CAM)
 - Platelet-endothelium cell adhesion molecule (PECAM)
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Examples of lipid metabolism molecules that bind to heparin/heparan sulfate

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|---------------------------|------------------------|---------------------------|
| ● Apolipoprotein B (apoB) | ● Cholesterol esterase | ● Apolipoprotein E (apoE) |
| ● Triglyceride lipase | ● Lipoprotein lipase | |
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Examples of degradative enzymes that bind to heparin/heparan sulfate

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|------------------------|--------------------------------------|
| ● Acetylcholinesterase | ● Extracellular superoxide dismutase |
|------------------------|--------------------------------------|
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Examples of protease inhibitors that bind to heparin/heparan sulfate

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|--------------------|---|---|
| ● Thrombin | ● Heparin cofactor II | ● Factor Xa |
| ● Leuserpin | ● Tissue plasminogen activator | ● Plasminogen activator inhibitor-1 (PAI-1) |
| ● Antithrombin III | ● Lipoprotein-associated coagulation inhibitor (LACI) | |
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Examples of proteins that bind to heparin/heparan sulfate or their relevant microbial pathogens

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| ● Glycoproteins C and B (gC and gB) of herpes simplex virus types I and II | ● Circumsporozoite protein of Plasmodium falciparum |
| ● Glycoprotein CII (gC-II) of cytomegalovirus | ● Adhesion protein of Trypanosoma gondii |
| ● Glycoprotein 120 (gp120) of human immunodeficiency virus | ● Adhesion proteins of Bordetella pertussis, Streptococcus pyogenes, and Staphylococcus aureus |
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FIGURE 4